USER MANUAL

C-MAG MAGAZINE SYSTEM

M249 / FN MINIMI

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INTRODUCTION

The C-MAG Magazine M249/FN MINIMI is a 100 round ammunition magazine, manufactured to the highest production standards. It meets and exceeds NATO Military Specifications.

The patented design provides for equal distribution of the ammunition in each of the twin-drums. Rounds are fed alternately from each drum through the feed clip into the weapon, resulting in a fixed center of gravity during firing. Using a unique rotation device and low torsion stress springs, the C-MAG is the world's first magazine with a full 100-round capacity, capable of being pre-loaded and stored indefinitely.

The compact design allows for better ground clearance and stability.

The C-MAG M249/FN MINIMI is installed in the STANAG Style magazine well (secondary feeding mechanism) of the weapon like the standard 30 round magazine. The bolt will be in the closed position when the magazine is empty.

The C-MAG can be reloaded and reused repeatedly with an estimated life cycle in excess of 60,000 rounds.

C-MAG 5.56MM
Technical Data

AMMUNITION: NATO standard 5.56mm x 45mm, .223 caliber
CAPACITY: Variable, 1 to 100 rounds
FEED RATE: Variable, up to 1,500 rounds per minute
DIMENSIONS: 9.85 x 4.60 x 3.13 inches 250 x 117 x 79.5mm
WEIGHT: Empty: 2.2 lbs. / 1 kg
STORAGE LOADED: Indefinite
MATERIALS: Main Components: Filled thermoplastic Minor Components: Non-corrosive steel; alloy

DESCRIPTION

The C-MAG magazine consists of two main component assemblies:

- **Double Drum Housing**
- **Feed Clip Assembly.**

Feed Clip Assembly

Double Drum Housing

The **double drum housing** comprises of:

- Double drum,
- Drive gear assemblies with pusher arms,
- Set of covers.

The housing acts as storage facility for the ammunition.

The **Feed Clip** is filled with **Two Strings of Linked Spacer Rounds:**

- 12RD Linked Spacer Rd String (flat end)
- 12RD Linked Spacer Rd String (**tapered** end)

which occupy the feed clip when the magazine is empty. They are an integral part of the magazine assembly.

The **tapered end** of the string set is positioned at the open end of the feed clip when the magazine is empty and allows the weapon bolt to close after the last round has been fired.

WARNING: Do not remove the Linked Spacer Round Strings !!

The bolt will stop in the closed position.

C-MAG M249/FN MINIMI

Assembly Parts

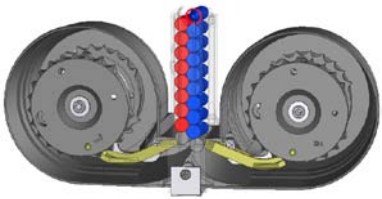
LOADING

- The C-MAG loads and functions like a standard issue magazine.
- Live cartridges are loaded by pressing them into the feed clip (on top of the spacer round assembly). Cartridges will automatically feed alternately into each drum. The springs are tensioned during the process without the need for any supplementary operations.
- Loading can be done by hand but is recommended with the Speed Loader or Personal Loader.

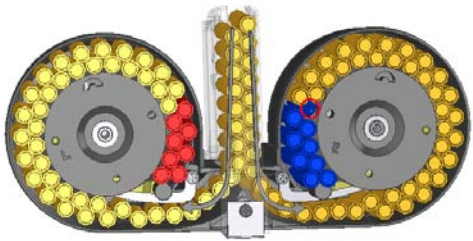
RECOMMENDATION:
Regularly add **Graphite (dry lubricant)** to top of spacer rounds prior to loading. The loading process distributes the graphite throughout the drum housing.

DO NOT USE OIL!

C-MAG Loading Action



Rounds on the **left side of the feed clip** are loaded into the **left drum**.



Rounds on the **right side of the feed clip** are loaded into the **right drum**.

Use of the Personal Loader

The Personal Loader uses loose or bulk ammunition. It consists of two parts:

- **Housing**

Fits over the feed clip of the C-MAG.

- **Plunger**

Raise the plunger and insert 5 rounds into the side opening of the housing, depress plunger to load the rounds into the C-MAG.

DO NOT FORCE LOADING!

If extra force is required, STOP:

- Unload several rounds, push down to check rounds for free movement and reload.
- If rounds do not move freely and come up to the top of the feed clip, disassemble and inspect.

Use of the Speed Loader

The Speed Loader uses 10 round ammunition clips for rapid loading. It consists of two parts:

- **Housing**

Fits over the feed clip of the C-MAG.

- **Plunger**

Remove plunger, insert 10 round clip, use plunger to load ammunition into the C-MAG.

DO NOT FORCE LOADING!

If extra force is required, STOP:

- Unload several rounds, push down to check rounds for free movement and reload.
- If rounds do not move freely and come up to the top of the feed clip, disassemble and inspect.

Keep Loaders clean!

CAUTION

PRECAUTIONARY MEASURES FOR USE IN SAND ENVIRONMENT

- Keep BOLT CLOSED when C-MAG is in the weapon.
- Keep DUST COVER on the feed clip whenever C-MAG IS NOT in the weapon.
- Keep C-MAG in Carrying Pouch when not in use.

DISASSEMBLY OF THE C-MAG

1. DISASSEMBLY FOR CLEANING

Take the empty C-MAG and

1.1. Remove Clip Assembly

1.1.a Remove clip screws, first front screw (drum side), than back screw (cover side).

1.1.b Turn C-MAG over and remove clip strap and feed clip assembly.

1.1.c Remove Linked Spacer Round String Set from feed clip.

1.2. Remove Cover Set

WARNING: Do not disassemble any further.

1.3. Cleaning

Clean drum assembly, covers, feed clip and linked string sets as recommended on next page.

CONTAMINATION & ACTION

HARSH SAND, DIRT ETC.:
Use cloth, compressed air or flush with water.

FINE SAND, SILT, MUD ETC.:
Soak in water with detergent (optional) to saturate and dissolve deposits. Flush with clean water.

OILS, GREASE, RESIDUES FROM SOLVENTS OR FUELS:
Use acetone or alcohol. Do not use oily fuels such as diesel, mineral spirits or kerosene. Follow up with detergent and water.

SALT DEPOSITS FROM SEAWATER:
Light deposits: Soak in water to dissolve.
Heavy deposits: Return to manufacturer.

CLEANING CLEAR COVERS:
DO NOT use any type of solvent on clear covers. *Clear Covers will turn cloudy!* Clean with water, soap or detergent.

USE CAUTION

2. DISASSEMBLY FOR CLEARING OF BLOCKAGES

2.1. Remove Clip Assembly

HOLD DOWN clip assembly while removing screws and clip strap. Remove front screw first (drum side).

CAUTION:
Point C-MAG away from you.
Removing the clip strap may release blockage. Cartridges may be forced out of the drum housing through the clip opening. Point away from you and control release of rounds by holding down clip.

2.2. Remove Cover Set.

CAUTION:
Put C-MAG in container to avoid uncontrolled release of rounds. Point away from you!

2.2.a Carefully remove screws and remove cover. Grasp and slowly rotate drive gear to dislodge ammunition. Shake drum assembly if necessary. Do not allow drive mechanism to snap back into place.

2.2.b Check for damaged parts.

2.3. Repairs

Magazines with obvious and serious damage to the drum assembly cannot be field repaired and must be returned to the manufacturer for repair.

Removable components are available as spare parts for field replacement.

C-MAG products can be returned to the manufacturer for warranty or post warranty work at any time:

THE BETA COMPANY
2137B Flintstone Drive, Tucker, GA 30084, USA
1-800-669-2382, www.betaco.com

ASSEMBLY OF THE C-MAG

1. **Inspection**

All parts of the C-MAG should be inspected for function or damage prior to assembling. Drive gears in the double drum housing must rotate freely.

2. Attach covers

Place covers on drum assembly and attach. Covers are designed for a tight fit.

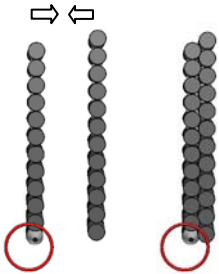
3. Attach feed clip assembly

3.1. Load feed clip

The feed clip holds two Linked Spacer Round Strings.

- INVERT feed clip, legs pointing up.
- Align string sets vertically and nest together. Color coded gray rounds are at both ends of each spacer round string. Linked-spacer-round-string-sets do not come apart.

- Lower assembled string set into feed clip.



CAUTION:
TAPERED Round (circled) MUST be at the open end of the feed clip. The string set assembly must be installed vertically as shown.

DO NOT place linked string sets on top of each other. C-MAG will not load.

3.2. **Attach feed clip to drum housing**

- Invert double drum housing and feed clip assembly. Slide feed clip assembly on to drum housing.
- Add clip strap, attach back screw (over covers) first.
- Turn around holding down feed clip assembly and attach screws. Assembly is complete.
- Depress spacer rounds to check for free movement.
- Add graphite to top of string sets for lubrication.

TROUBLESHOOTING	
Characteristic	**Cause / Remedy**
Does not load.	Linked Spacer Round String Set is installed incorrectly.
Loading is very difficult.	Dirty magazine.
Round missed stagger	Will feed and fire if it loaded easily. If loading required extra force, unload and load again.
Double feeds in weapon.	Feed Clip may be cracked.
One side of feed clip shows live rounds, other side spacer round string.	One drum hesitated feeding; sign of dirty magazine.
Weapon bolt drives spacer round string into front of feed clip.	Linked Spacer Rounds are installed incorrectly. Tapered round MUST be at top-opening of the feed clip.

TROUBLESHOOTING	
Characteristic	**Cause / Remedy**
Linked assembly drags in feed clip.	Linked assemblies have become lengthened. May be pushed back together and re-used or exchanged.
Magazine falls out of weapon.	Magazine is not fully seated in weapon.
Weapon fires several rounds, then jams. Magazine feeds well by hand when out of the weapon.	Check for secure attachment between feed clip and drum assembly.
C-MAG rattles when empty or full.	This is normal.

1. ACCESSORIES

1.1. **Personal Loader** (see Page 10)

1.2. **Speed Loader** (see Page 11)

1.3. Pouch

1.3.a The pouch is designed to hold

- 1 C-MAG Magazine
- 1 Loader
- 2 Graphite Tubes
- 1 User Manual

Pouch

USER MANUAL
(inside behind logo panel)

⇩

LOADER
POCKET

⇨

GRAPHITE
TUBE PANEL

⇦

Available in different colors.
See website @ www.betaco.com

C-MAG MAGAZINE SYSTEMS
M249/FN MINIMI

Include the following components:

1 each C-MAG Magazine M249/FN MINIMI
1 each Loader (Personal or Speed Loader)
1 each Pouch (choice of different colors)
1 each User Manual M249/FN MINIMI
2 each Graphite Tubes

LIST OF PART NUMBERS

Part No.	Description
MMNxxx	C-MAG SYSTEM M249/FN MINIMI (Different configurations available, see website @ www.betaco.com)
CMN000-5	C-MAG Magazine M249/FN MINIMI (black covers)
CMN000-6	C-MAG Magazine M249/FN MINIMI (clear covers)
LCMS10	Speed Loader
LCMP05	Personal Loader
PMNS11	Pouch black (other colors available)
FMN1BB-5	Feed Clip Kit M249/FN MINIMI
SCM02B	Drum Back Cover Set
SCM02CL	Drum Back Cover Set Clear
SCM160	Dust Cover
XMNTEM	User Manual M249/FN MINIMI
XXXGT1	Graphite Tube

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